



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/532,300

10/12/2005

Taketoshi Usui

10993.0254

1095

22852

7590

11/25/2009

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP

901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

MCCULLEY, MEGAN CASSANDRA

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

11/25/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/532,300	Applicant(s) USUI ET AL.	
	Examiner Megan McCulley	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 6 and 9-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6 and 9-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 5-6 and 9-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishimura et al. (EP 0304503) in view of Kihara et al.

Regarding claim 1: Ishimura et al. teaches a curing agent/hardener comprising: a core/powder of an amine compound that has at least one tertiary amino group, a reaction product of the amine compound and an epoxy resin as a capsule membrane/shell, a group capable of absorbing infrared rays of wave length 1630 to 1680 cm^{-1} , and a group capable of absorbing infrared rays of wave length 1680 to 1725 cm^{-1} on the surface of the core/powder, thereby being an intermediate layer between the core/powder and the capsule membrane/shell (abstract).

Because example 2 of Ishimura et al. is prepared the same way as example 2 of the instant application, using the same steps with essentially the same amount of reactants (see page 12 paragraph labeled Preparation of hardener), although not explicitly recited, it is inherent that the weight ratio of the core and the capsule membrane formed is between 100:1 to 100:100. This is further evidenced because Ishimura et al. states that a shell has formed (page 13 lines 10-13 and Fig. 2).

Ishimura et al. does not disclose that the chlorine in the composition is not more than 400 ppm. However, Kihara et al. teaches an epoxy curing agent (col. 1 lines 5-10)

Art Unit: 1796

comprising the reaction product of an amine and an epoxy (example 1) with a total chlorine content in the epoxy of 390 ppm (production example 1). Ishimura et al. and Kihara et al. are analogous art since they are both concerned with the same field of endeavor, namely epoxy resin curing agents comprised of the reaction product of an amine and an epoxy. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the total chlorine content of Kihara et al. with the curing agent of Ishimura et al. and would have been motivated to do so for such desirable properties as better water resistance, as evidenced by Kihara et al. (col. 2 lines 1-5 and results table 1).

Regarding claims 2 and 3: While Ishimura et al. does not directly teach that the ^{13}C -NMR spectrum of the capsule membrane/shell ratio of a largest peak height between 37 to 47 ppm to a largest peak height between 47 to 57 ppm is not lower than 3 and not higher than 7, and the melt viscosity of the amine curing agent/hardener is not higher than 10 Pa·s at 160 °C, since all of the components are present in the composition it is implicit that the composition would have these properties. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain a composition with these properties.

Regarding claim 5: Ishimura et al. teaches the basic curing agent as set forth above. Ishimura et al. does not disclose that the chlorine in the composition is not more than 400 ppm. However, Kihara et al. teaches an epoxy curing agent (col. 1 lines 5-10)

Art Unit: 1796

comprising the reaction product of an amine and an epoxy (example 1) with a total chlorine content of 60 ppm (table 1). At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the total chlorine content of Kihara et al. with the curing agent of Ishimura et al. and would have been motivated to do so for such desirable properties as better water resistance, as evidenced by Kihara et al. (col. 2 lines 1-5 and results table 1).

Regarding claim 6: Reference example 1 of Ishimura et al. teaches reacting an epoxy resin with an amine compound to obtain the core/powder amine compound.

Ishimura et al. does not disclose that the chlorine in the composition is not more than 400 ppm. However, Kihara et al. teaches an epoxy curing agent (col. 1 lines 5-10) comprising the reaction product of an amine and an epoxy (example 1) with a total chlorine content of 60 ppm (table 1). At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the total chlorine content of Kihara et al. with the curing agent of Ishimura et al. and would have been motivated to do so for such desirable properties as better water resistance, as evidenced by Kihara et al. (col. 2 lines 1-5 and results table 1).

Regarding claim 9: A masterbatch is disclosed in Ishimura et al. (abstract) comprising 100 parts by weight of the curing agent/hardener and 10-50,000 parts by weight epoxy resin (page 3 lines 24-25).

Regarding claim 10: Ishimura et al. teach 0.1 to 100 parts by weight of the masterbatch can be used to 100 parts by weight of an epoxy resin (page 9 lines 19-20).

Art Unit: 1796

Regarding claim 11: The composition can be mixed with other curing agents such as acid anhydrides (pg. 9 lines 24-39). Example 13 has 100 parts by weight epoxy, 90 parts by weight acid anhydride and 10 parts by weight masterbatch (pg. 18), which overlaps the claimed ranges.

Regarding claims 12, 16, and 20: Ishimura et al. teaches using the compositions for IC chip sealing, which uses anisotropic conductive materials (pg. 10 lines 21-31).

Regarding claims 13, 17, and 21: Ishimura et al. teaches using the compositions for the bonding of printed circuit boards, which uses conductive adhesive materials (pg. 10 lines 21-31).

Regarding claims 14, 18, and 22: Ishimura et al. teaches using the compositions for bonding headlight devices, which uses insulating adhesive material (pg. 10 lines 21-31).

Regarding claims 15, 19, and 23: Ishimura et al. teaches using the compositions for impregnating/encapsulating motor coils (pg. 10 lines 21-31).

Response to Arguments

Applicant's arguments filed July 10, 2009 have been fully considered but they are not persuasive.

A) Applicant's argument that Kihara et al. do not teach the chlorine content of the epoxy resin but instead of the modified polyamine is not persuasive. Kihara et al., like the instant claims, is concerned with making a curing agent from the reaction of a

polyamine and epoxy (col. 2 lines 18-32). Kihara et al. calls the resulting curing agent a modified polyamine (abstract). Therefore, if the resultant modified polyamine of preparation example 1 has a chlorine content of 390 ppm, then the epoxy in the modified polyamine must also have this chlorine content or less.

B) Applicant's argument that Kihara et al. is concerned with different properties than the claimed invention is not persuasive. The Court in KSR stated that "[t]he first error...in this case was...holding that courts and patent examiners should look only to the problem the patentee was trying to solve. The Court of Appeals failed to recognize that the problem motivating the patentee may be only one of many addressed by the patent's subject matter...The second error [was]...that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem." 550 U.S. at ___, 82 USPQ2d at 1397 and MPEP 2141 II A 2. Therefore, although Kihara et al. seeks different properties, a person having ordinary skill in the art would be led to the teaching of Kihara et al. for other desirable properties.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

Art Unit: 1796

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Megan McCulley whose telephone number is (571)270-3292. The examiner can normally be reached on Monday - Thursday 7:30-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

/M. M./
Examiner, Art Unit 1796